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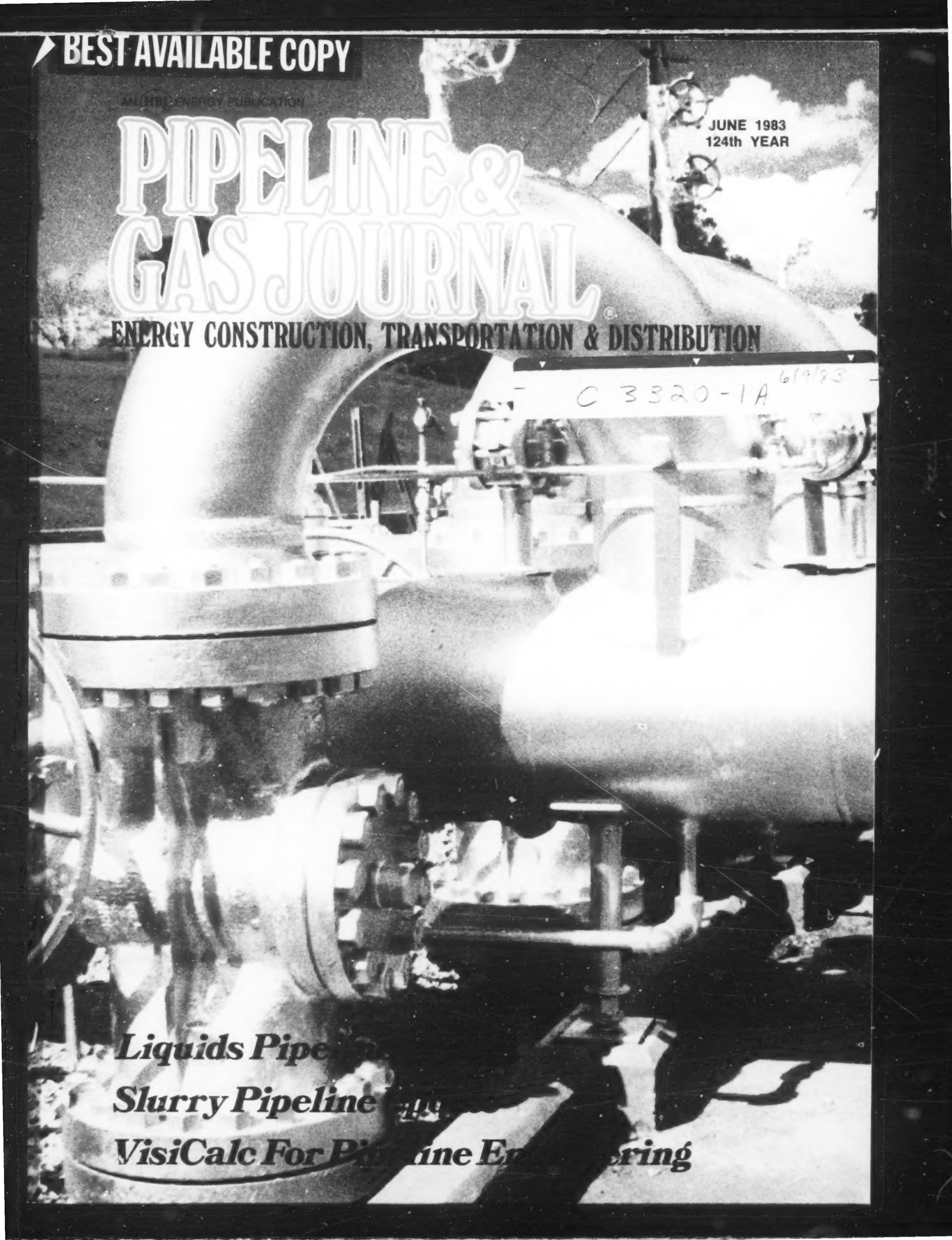

AN (HBJ) ENERGY PUBLICATION

JUNE 1983
124th YEAR

PIPELINE & GAS JOURNAL

ENERGY CONSTRUCTION, TRANSPORTATION & DISTRIBUTION

C 3320-1A 6/9/83

Liquids Pipe...

Slurry Pipeline...

VisiCalc For Pi...ine En...ring

PIPELINE & GAS JOURNAL

International Pipeline & Gas Utility Design, Construction & Operation

Published Continuously Since 1859

in this issue

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COVER

Liquids pipelines transport nearly one-half of the more than 15 million barrels of petroleum products used daily in the U.S., carrying them through more than 280,000 miles of trunk pipelines and gathering lines. This month's cover, staff photo by editor Dean Hale, of piping at a Texas Eastern Products Pipeline Co. station manifold at Lick Creek, Ill.

Portal Increases Throughput With SCADA, Distributed Control 17

Combination of programmable controllers and a supervisory control and data acquisition (SCADA) host computer provides upper Midwest crude pipeline with exceptional control capabilities and an increase in daily deliverability to over 100,000 bbl per day.

How To Use VisiCalc® For Pipeline Engineering 22

Application of "electronic spreadsheet" programs to engineering problems in pipelining has made it possible for user to concentrate on the problem instead of the mechanics of using a computer.

Will 1983 Be Slurry's Big Year? 26

Building of major coal slurry pipeline systems is closely linked with ability of the lines to acquire rights-of-way; two bills in 98th Congress are slowly but surely moving toward giving right of *eminent domain* to slurry pipelines; meanwhile, ETSI continues to move toward construction.

Trans-Panama Pipeline System Provides New Moves For Alaska Oil 28

Big (36 and 40-in.) new $214 million pipeline across western Panama is helping to move up to 800,000 bbl per day of Alaskan North Slope crude oil in trans-shipment from big tankers from Valdez to smaller tankers going to Gulf Coast and Eastern Seaboard terminals.

Dome-Cochin Multi-Batch Line May Be World's Safest 34

Natural gas liquids flow some 1900 miles from the lush countryside of Northern Alberta through the U.S. via Minnesota, Iowa, Illinois, and Michigan to Sarnia, Ontario, operating safely thanks to a highly sophisticated gas detection system installed at every station.

Two Gas Pipeline River Crossings Drilling In Northern Italy 38

Europe's first bored crossings of major rivers made in Italy.

E/C/S Directory 40

P&GJ's 17th annual E/C/S Directory lists highly specialized engineering-construction-service firms worldwide with the expertise needed to solve difficult engineering and construction problems for pipelines, utilities.

U.S. & Canadian Coal Slurry Pipelines

Company	Miles	Sizes (In.)	From	To	Estimated Cost ($Millions)	Status	Contractor or Engineering Co.	Annual Tonnage (Millions)
Alberta Economic Development, Energy & Natural Resources Ministries	500	Unk.	Hinton, Alberta	West Coast Port	–	Planned	Fluor (E)	N.A.
Allen-Warner Valley Energy Systems (Nevada Power Co.)	183 73	20, 22 9, 12	Alton, Utah Alton, Utah	Allen Station Warner Valley, Utah	$270 –	Deferred Deferred	Engineering Management, Inc. (E)	9.1 2.5
Coalstream Pipeline Co. (Continental Resources Inc.)	1500	24-48	Kentucky	Florida	$3000	Deferred	Fluor (E)	55
Energy Transportation Systems Inc.	1387 500	40 N.A.	Wyoming Oklahoma	Baton Rouge, La. Houston	$2000 N.A.	Planned Planned	Bechtel (E) Bechtel	37 N.A.
Pacific Bulk Transportation Systems (Boeing Engineering & Construction Co.)	650		Emory, Carbon counties, Utah	Oxnard, Calif.	$500	Planned	Boeing (E)	10
Powder River Pipeline Inc.	1923	42	S.E. Montana	Great Lakes areas, other terminals	$2500	Deferred	–	36
San Marco Pipeline Co. (Houston Natural Gas, Rio Grande Industries)	900	20, 24	S.E. Colorado	Texas Gulf Coast	$800	Deferred	–	15
Snake River System (N.W. Energy, Gulf Interstate)	1100	20, 24	N.E. Wyoming	Idaho, Oregon	$500	Deferred	–	10
Tesoro Petroleum Corp.	1000	30	Kentucky	Southeastern U.S.	$1000	Deferred	–	N.A.
Virginia Electric Power Co.	420	12-36	Proud, W.V.	Portsmouth, Va.	$250	Deferred	–	10

Will 1983 Be Slurry's Big Year?

by Dean Hale, *Editor*

Will any new coal slurry pipelines be built in the United States in the next decade – or ever? The coal slurry pipeline projects that have been announced appear to have ample justification: electric utilities plan to utilize more coal in the future for power generation boiler fuel, and pipeline transportation unquestionably will be more economical than rail transportation.

Coal slurry pipelines in the past seven years have found an adversary that has proven very tough to battle – the U.S. Congress. Coal slurry pipelines, to succeed, need the right of *eminent domain* to successfully acquire needed rights-of-way. Railroad lobbyists have successfully fought the granting of this right to the coal slurry pipelines. Railroad lobbyists are among the strongest in Washington.

Ironically, the same railroads that are fighting the pipelines over *eminent domain* and are blocking pipeline passage over their rail lines were granted – by Congress – the same land privileges of *eminent domain* in the 1880s and used it to build their extensive systems.

Fortunately, in the 98th Congress currently in session, two major bills concerned with coal slurry pipelines and their right of *eminent domain* have been proceeding in an orderly fashion. In the U.S. Senate, S.267, Coal Distribution and Utilization Act of 1983, introduced Jan. 27, 1983, received a favorable vote of 13-7 and is expected to reach the Senate floor in mid-June. The Senate Committee on Energy and Natural Resources approved the bill after okaying amendments that would make the pipelines and their electric utility customers equally liable for any pollution damage and requiring that the pipelines be buried wherever possible, with disturbed surface areas revegetated. Amendments that "expressly delegate to the states" power to regulate pipeline activities involving water were also approved.

In the House of Representatives, H.R. 1010, the Coal Pipeline Act of 1983, also introduced Jan. 27, was approved by the Committee on Interior and Insular Affairs, 27-13. The bill is being considered by the Committee on Public Works and Transportation, and if approved by mid-June, will then be sent to the House Rules Committee. The bill could be on the House floor for a vote by mid-July.

Once the Senate and House approve the respective bills, the legislation moves to a conference committee for the "ironing out" of differences. The final bill would then require approval by Senate and House before being sent to the White House for signing.

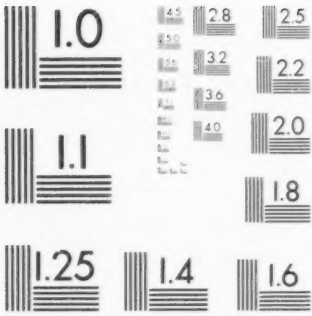
Both bills have received favorable consideration in both houses, particularly because of the protective amendments on state water rights. Industry observers say they have "good feelings" on this year's legislation and expect it to pass despite hard lobbying.

Progress on Projects

Of the 9 major coal slurry pipeline projects in the U.S. and one in Canada, totalling some 10,136 miles (detailed in the accompanying table), only the **Energy Transportation Systems, Inc.** (ETSI) project is approaching fruition. All others have been deferred for one reason or another – but are still being actively considered.

ETSI plans a 1387-mile, 40-in. $3.8 billion from Wyoming to Oklahoma, Arkansas, and Louisiana. A 500-mile "branch" to the Houston, Texas area, extending from Oklahoma, is also being considered, but not as part of the main project.

ETSI also plans a 267-mile pipeline in South Dakota to delivery water to the coal slurry preparation plant near Gillette, Wyo. ETSI has acquired 90% of the right-of-way on the slurry line route and 70% of the ROW for the water line. ETSI has a final environmental impact s.udy. Six additional permits covering water discharge and air quality standards have been received in Oklahoma and Arkansas. Basic engineering is complete. Contracts for engineering and construction management have been awarded to Bechtel Petroleum Inc. Construction is expected to begin in 1984, with completion estimated in 1986. **P&GJ**



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One Hundred Twenty Five Years
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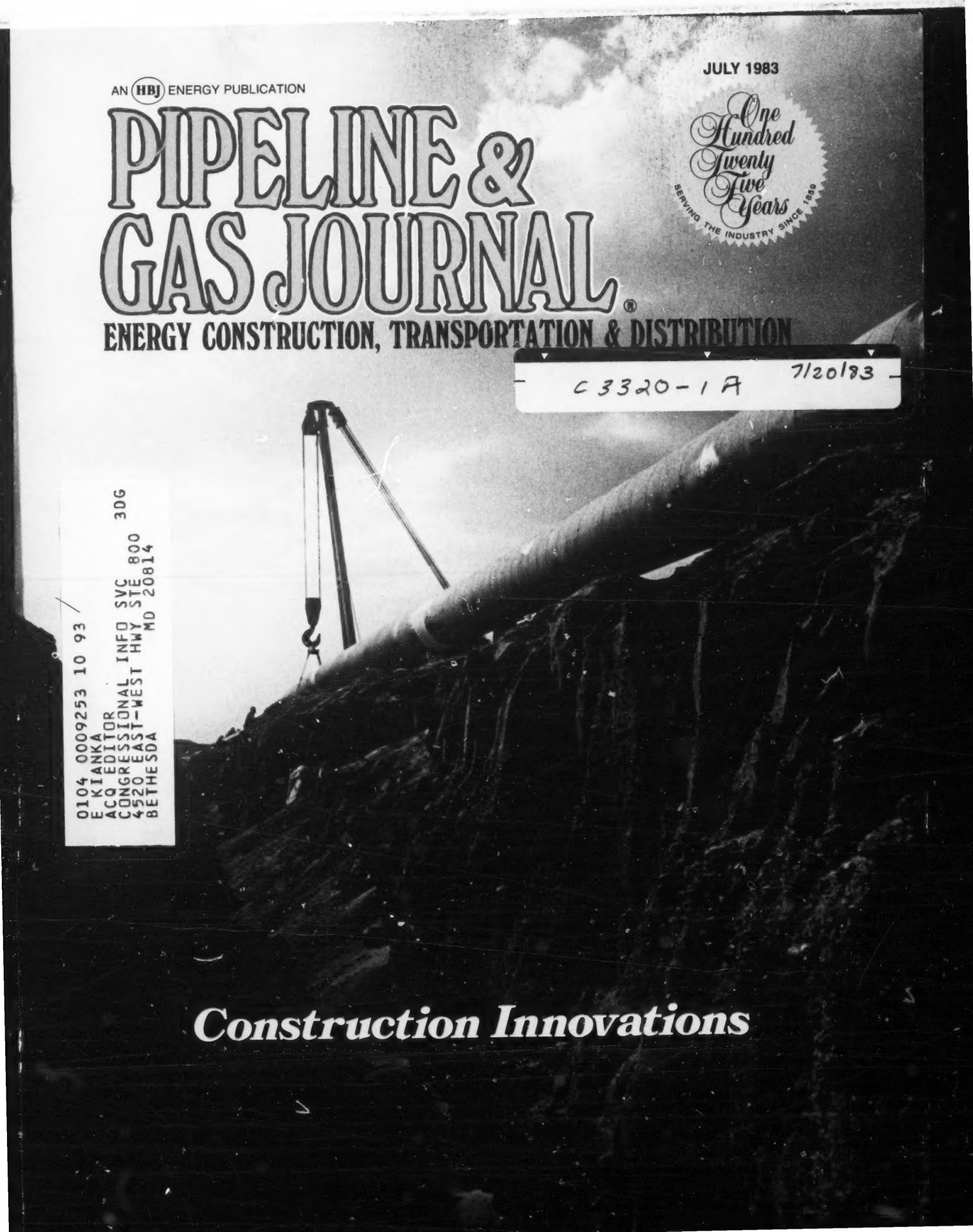

Construction Innovations

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Innovations '83: New Ideas, Better Methods. 17

Innovations increase worker productivity, save money and time, and often make the difference in completing a project on time. Built for a specific purpose or adapted in the field, these innovations do a job better than it has ever been done.

How Changing Economic Factors Affect Pipeline Design Variables 20

What may be the calculated optimum design for a pipeline system one year under one set of economic conditions may change significantly in another year, given a new set of circumstances. Engineers must design pipelines to provide the highest return on the investment, and the lowest cost of service for an expected economic life of a planned facility.

What's New In Construction Equipment 28

Construction equipment is becoming smaller, larger, more versatile, and more specialized. These are the latest machines that can handle the most demanding job in any environment.

How To Design Pipelines For Earthquake Resistance – Part I 32

Underground pipelines are particularly susceptible to damage from an earthquake. Any interruption to these vital "lifelines" poses a direct threat to human life and life support systems.

Southern Louisiana Swamp Job Tests Contractor's Adaptability. 38

Job recently completed by R. B. Potashnick Co. for Transcontinental Gas Pipeline in Louisiana encountered deep mud and heavy rains, testing contractor and equipment. Both came through with reputations enhanced.

COVER . Pipelining isn't all hustle and bustle; there are moments of brief pause to reflect on new ideas, new horizons. Backdrop for this month's cover is a gas line installation in Egypt near Cairo's suburbs, just prior to lowering-in.

– photo courtesy William Press Company

Oversupplies dampen profit picture

An oversupply of crude oil and of refined products was primarily responsible for the drop in earnings in the oil industry during the first quarter of 1983.

While the refining and marketing sectors of most companies lost money, the profit picture was also dampened by unusually warm weather and the recession, reducing demand and lowering prices.

The 99 companies responding to our survey report net income of $4.2 billion, a 16.6% drop from the previous year. Profit margin for the group fell from 3.9% to 3.6%.

Gains in crude oil, condensate, and natural gas production were more than offset by significantly reduced refining and marketing earnings and higher year-to losses in metals at Atlantic Richfield. Net income fell 14% during the first quarter.

Exxon posted a 26% increase in income for the quarter, earning $839 million in 1982 and $1.06 billion in 1983.

Disappointing results in refining, marketing, and chemicals operations due to an intensely competitive market are blamed for Gulf Oil's 37% decline in net earnings. The company faults companies with large quantities of low-cost Alaskan oil for forcing down gasoline prices in the U.S.

Mobil Corp. reported a 32% drop in earnings for the first quarter, falling from $369 million in 1982 to $250 million in 1983.

Increased interest charges resulting from the Cities Service acquisition adversely affected Occidental Petroleum's earnings picture. Net income in the first quarter 1982 was $61.1 million compared to $25.9 million this year.

A $38.6 million settlement from FERC more than offset the effect of sharply curtailed natural gas sales at Pennzoil. Earnings increased from $38.9 million in 1982 to $40.3 million in 1983.

Standard Oil of California's 35% earnings increase resulted mainly from the lower cost of crude oil,

GAS COMPANIES' FIRST QUARTER FINANCIAL REPORTS

Company	Three months ending March 31** Revenues ($000) 1983	1982	% Chg.	Earnings* ($000) 1983	1982	% Chg.	Profit Margin‡ 1983	1982
Alabama Tennessee N.G.	43,240	37,273	+ 16.0	1,643	1,671	- 1.7	3.8	4.5
American Nat. Resources	982,500	1,063,300	- 7.6	60,900	79,900	- 23.8	6.2	7.5
ARKLA	410,450	398,729	+ 2.9	32,741	45,781	- 28.5	8.0	11.5
Coastal Corp.	1,562,136	1,565,505	- 0.2	14,063	6,002	+134.3	0.9	0.4
Columbia Gas	1,756,506	1,875,546	- 6.3	67,677	93,455	- 27.6	3.9	5.0
Consolidated Nat. Gas	1,217,102	1,200,451	+ 1.4	70,179	87,695	- 20.0	5.8	7.3
El Paso Companies	1,222,838	1,055,581	+ 15.9	14,290	21,192	- 32.6	1.2	2.0
ENSERCH Corp.	991,561	1,004,460	- 1.3	43,516	59,495	- 26.9	4.4	5.9
Houston N.G.[1]	696,727	785,162	- 11.3	47,697	63,511	- 24.9	6.8	8.1
InterNorth	1,359,742	1,449,253	- 6.2	101,513	106,144	- 4.4	7.5	7.3
Mountain Fuel Supply	203,708	182,042	+ 11.9	26,457	22,479	+ 17.7	13.0	12.4
National Fuel Gas	402,991	398,741	+ 1.1	18,282	25,027	- 27.0	4.5	6.3
Northwest Energy	803,542	486,945	+ 65.0	32,577	32,564		4.1	6.7
NOVA, An Alberta Corp.	1,067,000	730,000	+ 46.2	32,500	27,400	+ 18.6	3.1	3.8
ONEOK Inc.[2]	349,072	378,689	- 7.8	22,184	30,539	- 27.4	6.4	8.1
Pacific Lighting	1,267,059	1,174,430	+ 7.9	32,507	28,757	+ 13.0	2.6	2.4
Panhandle Eastern	1,034,329	956,671	+ 8.1	61,568	73,361	- 16.1	6.0	7.7
Peoples Energy	593,963	702,009	- 15.3	34,013	40,536	- 16.0	5.7	5.7
Pioneer Corp.	288,665	302,413	- 4.5	21,517	29,843	- 27.9	7.5	9.9
Sonat Inc.	846,192	815,673	+ 3.7	65,605	63,199	+ 3.8	7.8	7.7
Southern Union Co.	345,810	344,494	+ 0.4	13,879	13,040	+ 6.4	4.0	3.8
Texas Eastern Corp.	1,459,441	1,424,588	+ 2.4	37,650	61,925	- 39.2	2.6	4.3
Texas Gas Transmission	791,556	783,264	+ 1.1	24,766	29,791	- 16.9	3.1	3.8
TransCanda PipeLines	923,493	1,020,555	- 9.5	46,423	38,724	+ 19.9	5.0	3.8
Transco Energy Co.	1,166,626	916,659	+ 27.3	36,785	36,062	+ 2.0	3.2	3.9
United Energy Resources	1,259,819	1,574,863	- 20.0	39,659	64,197	- 38.2	3.1	4.1
Westcoast Transmission	331,930	424,274	- 21.8	17,173	19,534	12.1	5.2	4.6
TOTAL	23,377,998	23,051,570	+ 1.4	1,017,764	1,201,824	- 15.3	4.4	5.2

*Earnings available to common. **Excluding non-recurring items. ‡Earnings* divided by Revenues.
[1]Ends April 30. [2]Ends February 28.

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OIL COMPANIES' FIRST QUARTER FINANCIAL REPORTS

Company	Three months ending March 31** Revenues ($000) 1983	1982	% Chg.	Earnings* ($000) 1983	1982	% Chg.	Profit Margin‡ 1983	1982
Adobe Oil & Gas Corp.	41,703	53,864	- 22.6	5,671	5,901	- 3.9	13.6	11.0
Altex Oil	892	1,671	- 46.6	(319)	(30)			
Amerada Hess	1,844,206	2,373,216	- 22.3	4,988	(16,164)		0.3	
American Pacific	4,849	2,929	+ 65.6	(361)	(777)			
American Petrofina	425,339	575,214	- 26.1	336	15,995	- 97.9	0.1	2.8
American Quasar	11,552	14,815	- 22.0	(585)	1,959			13.2
Anglo Energy	62,147	93,748	- 33.7	(12,055)	2,109			2.3
Arapaho Petroleum	1,324	1,519	- 12.8	(264)	(222)			
Argo Petroleum	5,226	5,692	- 8.2	(725)	(593)			
Ashland Oil	1,814,065	2,213,666	- 18.1	(23,592)	(20,868)			
Asamera	88,882	113,465	- 21.7	(5,653)	(690)			
Atlantic Richfield	6,364,360	6,534,489	- 2.6	330,379	385,409	- 14.3	5.2	5.9
Beard Oil	8,354	9,109	- 8.3	(352)	429			4.7
Belco Petroleum	76,145	81,630	- 6.7	27,467	26,728	+ 2.8	36.1	32.7
Buttes Gas & Oil	32,244	54,125	- 40.0	1,127	2,062	- 45.0	3.5	3.8
Callon Petroleum[1]	6,163	4,804	+ 28.3	4	680	- 99.4	0.1	14.2
Commonwealth Oil Ref.	10,900	164,200	- 93.3	(3,000)	(18,000)			
Consolidated O&G[1]	9,510	11,535	- 17.6	(1,178)	(2,172)			
Crown Central	347,433	413,604	- 16.0	(10,833)	(3,367)			
Crystal Oil	49,032	61,027	- 19.7	(355)	(783)			
Damson Oil	20,896	16,263	+ 28.5	2,255	1,491	+ 51.2	10.8	9.2
Diamond Shamrock	855,433	791,135	+ 8.1	4,634	29,149	- 84.1	0.5	3.7
Discovery Oil	1,620	967	+ 67.5	(484)	(235)			
Dorchester Gas[1]	417,050	201,007	+107.5	2,589	3,988	- 35.1	0.6	1.9
Dyco Petroleum	12,740	14,287	- 10.8	2,372	3,950	- 39.9	18.6	27.7
Energy Reserves Group	38,421	42,247	- 9.1	3,546	573	+518.8	9.2	1.4
Enstar Corp.	93,815	95,074	- 1.3	11,229	10,541	+ 6.5	12.0	11.1
Equity Oil	5,512	6,017	- 8.4	1,142	1,238	- 7.8	20.7	20.6
Exeter Oil	1,096	1,071	+ 2.3	105	156	- 32.7	9.6	14.6
Exxon	23,705,000	26,841,000	- 11.7	1,060,000	839,000	+ 26.3	4.5	3.1
Felmont Oil Corp.	21,454	18,028	+ 19.0	4,244	2,865	+ 48.1	19.8	15.9
Forest Oil Corp.	36,904	39,069	- 5.5	4,028	3,425	+ 17.6	10.9	8.8
Freeport McMoRan	204,215	194,875	+ 4.8	21,114	26,536	- 20.4	10.3	13.6
Galaxy Oil	3,243	3,340	- 2.9	(346)	(564)			
Getty Oil	3,005,091	3,140,090	- 4.3	157,844	179,740	- 12.2	5.3	5.7
Gulf Energy & Dev.	30,014	15,374	+ 95.2	1,256	435	+188.7	4.2	2.8
Gulf Oil Corp.	6,898,000	7,535,000	- 8.5	182,000	288,000	- 36.8	2.6	3.8
Hadson Petroleum	4,714	10,555	- 55.3	1,034	5,180	- 80.0	21.9	49.1
Hamilton Bros. Petroleum	45,564	54,155	- 15.9	3,398	5,911	- 42.5	7.5	10.9
Helmerich & Payne	61,872	94,762	- 34.7	10,923	20,418	- 46.5	17.7	21.5
Hershey Oil	1,781	1,786	- 0.3	273	225	+ 21.3	15.3	12.6
Howell Corp.	40,590	66,838	- 39.3	105	794	- 86.8	0.3	1.2
Howell Petroleum	22,321	22,814	- 2.2	2,494	2,042	+ 22.1	11.2	9.0
Inexco Oil	42,568	62,827	- 32.2	2,693	7,607	- 64.6	6.3	12.1
KRM Petroleum	1,095	1,370	- 20.1	13	130	- 90.0	1.2	9.5
Lear Petroleum	54,105	54,706	- 1.1	4,607	1,765	+161.0	8.5	3.2
Louisiana L&E	253,277	304,297	- 16.8	26,630	13,452	+ 98.0	10.5	4.4
Mapco Inc	469,436	480,836	- 2.4	13,370	16,013	- 16.5	2.8	3.3
May Petroleum	8,709	7,519	+ 15.8	(649)	663			8.8
Maynard Oil	8,865	11,338	- 21.8	(261)	1,015			9.0
MCO Holdings Inc.	39,937	43,731	- 8.7	2,391	4,206	- 43.1	6.0	9.6
McFarland Energy	3,774	3,759	+ 0.4	988	986	+ 0.2	26.2	26.2
Mesa Petroleum	106,715	104,139	+ 2.5	37,836	29,604	+ 27.8	35.5	28.4
Mitchell Energy[2]	240,462	231,137	+ 4.0	19,187	16,313	+ 17.6	8.0	7.1
Mobil Corp.	14,288,000	16,439,000	- 13.1	250,000	369,000	- 32.2	1.8	2.2
Moran Energy	23,379	29,059	- 19.5	1,386	4,083	- 66.0	5.9	14.1
Murphy Oil	711,009	744,356	- 4.5	27,871	33,378	- 16.5	3.9	4.5
Natomas	366,557	389,629	- 5.9	(6,551)	49,854			12.8
Noble Affiliates	77,555	114,688	- 32.4	7,083	22,438	- 68.4	9.1	19.6
Norris Oil	716	675	+ 6.1	39	172	- 77.3	5.4	25.5
Nugget Oil Corp.[3]	1,652	2,568	- 32.2	(280)	258			10.0
Occidental Petroleum	4,890,000	4,211,700	+ 16.1	25,900	62,100	- 58.3	0.5	1.5
Oxoco	11,675	7,501	+ 55.6	2,040	1,691	+ 20.6	17.5	22.5
Pacific Resources	269,513	284,042	- 5.1	(4,732)	(1,747)			
Pennzoil Co.	559,816	587,176	- 4.7	40,318	38,951	+ 3.5	7.2	6.6
Petroleum Development	5,327	2,228	+139.1	308	(336)		5.8	
Petro-Lewis	100,523	57,664	+ 74.3	9,950	1,883	+428.4	9.9	3.3
Prairie Producing Co.	4,637	7,130	- 35.0	590	1,416	- 58.3	12.7	19.9
Phillips Petroleum	3,637,000	3,805,000	- 4.4	129,000	192,000	- 32.5	3.6	5.0
Presidio Oil	1,590	2,216	- 28.2	83	286	- 71.0	5.2	12.9
Quaker State	213,227	224,012	- 4.8	6,157	5,824	+ 5.7	2.9	2.6
Sabine Corp.	32,574	47,880	- 32.0	3,800	5,726	- 32.2	11.9	12.0
Seneca Oil	5,120	5,512	- 7.1	(1,323)	(593)			
Shell Oil	4,645,000	4,842,000	- 4.1	246,000	345,000	- 28.7	5.3	7.1
Southland Royalty	82,428	94,838	- 13.0	8,741	8,596	+ 1.7	10.6	9.1
Southwestern Energy	26,177	21,011	+ 24.6	5,449	4,220	+ 29.1	20.8	20.1
Standard California	6,995,000	10,020,000	- 30.2	310,000	230,000	+ 35.0	4.4	2.3
Standard Indiana	7,500,000	7,200,000	+ 4.2	399,000	470,000	- 5.1	5.3	6.5
Standard Ohio	2,766,000	3,617,000	- 23.5	277,000	455,000	- 39.1	10.0	12.6
Statex Petroleum[3]	3,003	3,368	- 10.8	(72)	581	+113.7	2.4	17.2
Sun Co.	3,740,000	4,060,000	- 7.9	90,000	124,000	- 27.4	2.4	3.1
Sundance Oil	22,646	23,364	- 3.1	2,078	(2,810)		9.2	
Superior Oil	457,563	530,684	- 13.8	23,698	83,378	- 71.6	5.2	15.7
Tenneco	3,609,000	3,766,000	- 4.2	111,000	128,943	- 13.9	3.1	3.4
Tesoro	515,138	606,346	- 15.0	4,134	3,765	+ 9.8	0.8	0.6
Texaco Inc.	10,148,000	12,986,000	- 21.9	319,000	367,000	- 13.1	3.1	2.8
Texas American	73,467	69,713	+ 5.4	2,582	2,002	+ 28.9	3.5	2.9
Texas International	34,976	44,777	- 21.9	238	2,977	- 92.0	0.7	6.7
Tosco Corp.	725,115	823,011	- 11.9	(46,603)	510			0.1
Total Petroleum N.A.	501,164	544,387	- 7.9	(37,096)	4,596			0.8
Tribune Oil	769	569	+ 35.2	314	182	+ 72.5	40.8	32.0
Union California	2,474,000	2,481,600	- 0.3	128,300	168,500	- 23.9	5.2	6.8
Universal Resources	12,578	17,086	- 26.4	(623)	3,008			17.6
Wainoco Oil	12,910	13,598	- 5.1	1,059	(2,746)		8.2	
Westcoast Petroleum	14,018	11,420	+ 22.7	3,608	2,992	+ 20.6	25.7	26.2
Wilshire Oil of Texas	2,812	3,027	- 7.1	747	279	+167.7	26.6	9.2
Wiser Oil	14,990	14,750	+ 1.6	3,960	3,642	+ 8.7	26.4	24.7
Woods Petroleum	18,480	20,332	- 9.1	4,710	5,767	- 18.3	25.5	28.4
Worldwide Energy	17,619	14,145	+ 24.6	1,381	(144)		7.8	
TOTAL	117,573,338	132,086,797	- 11.0	4,243,504	5,089,840	- 16.6	3.6	3.9

*Earnings available to common. **Excluding non-recurring items. ( ) Loss. ‡Earnings* divided by revenues. [1]Ends February 28. [2]Ends April 30. [3]Ends January 31.

reduced exploration expenses, and some firming of petroleum product prices toward the end of the quarter.

Standard Oil of Indiana's 5% earnings decline was largely attributable to poorer results for U.S. refining, marketing, and transportation operations, which suffered from severely depressed margins as a result of competitive gasoline market conditions.

Lower crude oil prices and sales volumes in petroleum exploration and production operations and lower margins in refining and marketing operations contributed to Standard Oil of Ohio's 39% drop in net income.

The combined effect of surplus supplies of crude oil, excess manufacturing capacity, and unneeded marine tonnage had a depressing impact on the gross operating margins for Texaco's manufacturing and marketing operations. Net income declined 13%.

American Petrofina's 98% drop in net earnings was primarily due to losses in the refining and marketing segment, where severe competition during the first two months of the quarter held prices below costs.

Anglo Energy posted a $12 million loss for the quarter due to reduced spending for exploration and production of oil and gas by major and independent oil companies in reaction in part to lower oil prices and gas oversupplies.

Ashland Oil also reported a net loss amounting to $14.5 million. The economic recession and petroleum market instability was blamed.

A net loss was reported by Beard Oil, totaling $352,000. Operating revenues were adversely affected by a decline in oil and gas sales due to lower oil prices and production and a decline in drilling and well servicing revenues.

Belco Petroleum posted a 3% increase in net income as a result of higher oil and gas production and prices in Canada and higher gas prices in the U.S.

Recent softness in oil and gas prices and the continued slowdown of industry-wide activities took its toll at Callon Petroleum. Earnings dropped 99%.

Despite increased revenues from expanded marketing activities, net income at Dorchester Gas de-

creased 35% due to lower gas takes resulting from the current oversupply of natural gas as well as continued weakness in coal markets and in contract drilling.

Improved results from gas transmission and distribution operations in Alaska and $4.1 million realized after taxes from the sale of a coal-producing property in Texas contributed to Enstar's 6.5% increase in earnings.

Gulf Energy & Development reported a 189% increase in net income due to increased gas throughput, increased natural gas liquid products sales, and higher natural gas liquid sales prices.

The 42.5% decline in earnings at Hamilton Brothers Petroleum was a result of decreased income from gas transportation systems, resulting from the current weak demand for natural gas.

Howell Corp. posted an 87% drop in earnings due to the continued weakness of conventional fuel products markets.

Louisiana Land & Exploration's net income increased 98% as a result of a decrease in dry holes and exploration charges and reduced overhead expenditures.

Losses sustained by onshore contract drilling operations were primarily responsible for the 66% drop in earnings at Moran Energy.

Natomas reported a $6.6 million loss for the first quarter due mainly to a loss by their transportation subsidiary, increased interest expense, and reduced prices for international petroleum production.

Superior Oil's 72% drop in earnings was due to lower world crude oil prices, unusually warm weather, and the recession's lingering impact on oil and gas demand.

Declines in exploration and production and refining and marketing resulted in a 14% drop in net income at Tenneco.

Texas International's net earnings dropped from $3 million in 1982 to $238,000 in the first quarter of 1983.

The 27 gas companies responding to our survey reported a 15% drop in net earnings in the first quarter. Profit margin fell from 5.2% to 4.4%.

The warm winter drove American Natural Resources' net income down 24% from the first quarter of 1982.

Coastal Corp. reported a 135% increase in earnings. Most of the improvement came from natural gas pipeline operations.

Consolidated Natural Gas Co. posted a 20% decline in net earnings due to the warmest weather in 30 years.

Successful oil and gas development drilling by Mountain Fuel subsidiaries contributed to the 18% increase in net income.

The main reasons for Pacific Lighting's 12% increase in earnings were better results of utility and energy-related operations.

Peoples Energy reported a 16% drop in net income due to increasing losses of large-volume commercial and industrial business to No. 6 oil, the low level of economic activity in the Chicago area, customer conservation, and unsatisfactory rate orders.

Lower prices and production volumes for North Sea oil, as well as combined effects of continued U.S. recession and mild winter weather resulted in a 39% drop in earnings at Texas Eastern.

United Energy Resources reported a drop of 38% in net earnings due to the economic recession, low alternate fuel prices, and the excess supply of natural gas. ■

FINANCIAL NOTEBOOK

Capital appropriations by the nation's 1,000 largest manufacturers remained virtually unchanged at $21 billion (seasonally adjusted) in the first quarter, according to The Conference Board.

The petroleum industry, whose appropriations are both volatile and large, increased its appropriations 17.3% during the quarter while other manufacturing industries recorded an 8% decline overall.

The Conference Board reports the current outlook is for capital appropriations to rise only 6% this year. Excluding petroleum, appropriations are expected to be up only 1%.

Mergers/acquisitions. Coquina Oil (Midland, Tex.), formerly a Fluor unit, was acquired by American National Petroleum (Houston, Tex.).

Meenan Oil agreed to sell the operating assets of its Blueray Systems unit to a Vari Corp. subsidiary.

Noarko Resources (Denver, Colo.) and Aztec Energy (Farmington, N. M.) agreed to merge.

Hamilton Brothers Petroleum agreed to sell its entire equity position in Gulf Energy & Development to The Penn Central Corp. for $22.3 million.

Canadian Occidental Petroleum will acquire Canada-Cities Service for $362.5 million (Canadian).

Terrapet Energy (Dallas, Tex.) withdrew from negotiations concerning the acquisition of Teton Energy (Denver, Colo.).

Diamond Shamrock plans to acquire up to 30.4 million common shares of Natomas Co. (San Francisco, Calif.). The company also intends to propose a merger of the two companies.

Properties acquired. United States Oil plans to purchase a block of Federal oil/gas leases covering about 54,500 acres in Montana.

Western Energy Development sold a 16.45% working interest in 11 producing wells and 507 surrounding acres in Runnels County, Tex. to Northstar Energy for $2.5 million.

Money Markets. Beard Oil plans to close on the sale of $10 million of its 12%, 15-year senior notes to an institutional investor. Proceeds will be used to repay a bank debt.

Saber Energy (Houston, Tex.) secured a $250 million working capital line of credit.

MGF Oil refinanced its existing secured bank debt for 2 years.

Contracts. Aramco awarded 2 engineering construction contracts for work in the Marjan Field off Saudi Arabia to Brown & Root.

National Supply's well control systems division was awarded a multi-million dollar contract from Union Oil of Thailand for the production of offshore platform wellhead equipment.

Briefs. Texas Gas Corp. changed their name to Texas Gas Resources Corp.

Foster Wheeler Corp. formed a new unit called Foster Wheeler Energy Resources. ■